

May 11, 2012

RECEIVED
MAY 16 2012
SUPERFUND DIVISION

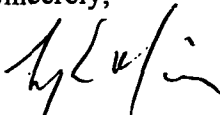
Mr. Jason Gunter
Remedial Project Manager
U.S. Environmental Protection Agency
Region 7 - Superfund Branch
901 North 5th Street
Kansas City, KS 66101

Re: The Doe Run Company - Leadwood Mine Tailings Site Monthly Progress Report

Dear Mr. Gunter:

As required by Article VI, Section 50 of the Unilateral Administrative Order (Docket No. CERCLA-07-2006-0272) for the referenced project and on behalf of The Doe Run Company, the progress report for the period March 1, 2012 through March 31, 2012 is enclosed. If you have any questions or comments, please call me at 573-638-5020 or Mark Nations at 573-518-0800.

Sincerely,



Ty L. Morris, P.E., R.G.
Vice President

TLM/jms
Enclosures

c: Mark Nations – TDRC
Matt Wohl – TDRC (electronic only)
Kathy Rangen – MDNR
Tim Skoglund – Barr Engineering



Leadwood Mine Tailings Site
Leadwood, Missouri
Removal Action - Monthly Progress Report
Period: March 1, 2012 – March 31, 2012

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1. Actions Performed or Completed This Period:

- a. No activities were complete at the site during the period.

2. Data and Results Received This Period:

- a. During this period, water samples were collected from downstream of Leadwood Dam and the East Seep and Erosion Area, as well as from upstream and downstream of the confluence of Eaton Creek with Big River. The analytical results for this event are included with this progress report.
- b. During this period, the Ambient Air Monitoring Report for January 2012 was received. Any issues identified in these reports are discussed below. A copy of this document has been sent to your attention.

The January 2012 Ambient Air Monitoring Report noted the following:

- The action levels for lead and dust were not exceeded.
- No samples were taken with the TSP monitors on 1/2/12 due to the holiday.

3. Scheduled Activities not Completed This Period:

- a. None.

4. Planned Activities for Next Period:

- a. Continue vegetation maintenance activities. The use of biosolids will only be continued if a biosolids management plan has been submitted to and approved by EPA.
- b. It is anticipated that EPA will use this site as a soil repository in the future. Preparations for these activities will continue.
- c. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- d. Complete air monitoring activities as described in the Removal Action Work Plan.

5. Changes in Personnel:

- a. None.

6. Issues or Problems Arising This Period:

- a. None.

7. Resolution of Issues or Problems Arising This Period:

- a. None.

End of Monthly Progress Report

March 26, 2012

Allison Olds
Barr Engineering Company
1001 Diamond Ridge
Suite 1100
Jefferson City, MO 65109
TEL: (573) 638-5007
FAX: (573) 638-5001



RE: Leadwood MTS-25/86-0013

WorkOrder: 12030703

Dear Allison Olds:

TEKLAB, INC received 5 samples on 3/15/2012 10:19:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Michael L. Austin
Project Manager
(618)344-1004 ex 16
MAustin@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

This reporting package includes the following:

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Chain of Custody	Appended

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCS D Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit
- NELAP NELAP Accredited
- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (i.e. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- | | |
|--|---|
| # - Unknown hydrocarbon | B - Analyte detected in associated Method Blank |
| E - Value above quantitation range | H - Holding times exceeded |
| M - Manual Integration used to determine area response | ND - Not Detected at the Reporting Limit |
| R - RPD outside accepted recovery limits | S - Spike Recovery outside recovery limits |
| X - Value exceeds Maximum Contaminant Level | |



Case Narrative

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Cooler Receipt Temp: 1.2 °C

Sample LW-001 (Lab ID 12030703-001) was initially analyzed for Total and Dissolved Zinc from Nitric Acid preserved bottles. The results were Total Zinc 2900 and the Dissolved Zinc 3550 ug/L. The samples were re-digested and analyzed a second time with similar results. The samples were then taken from the Unpreserved container. The Total Zinc was split and preserved with Nitric Acid and the Dissolved was filtered and then preserved with Nitric Acid. The samples were analyzed again and the results were Total Zinc 3560 and Dissolved Zinc 3410 ug/L. The results from the unpreserved bottle were used for the final report.

Locations and Accreditations

Collinsville		Springfield		Kansas City	
Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425	Address	3920 Pintail Dr Springfield, IL 62711-9415	Address	8421 Nieman Road Lenexa, KS 66214
Phone	(618) 344-1004	Phone	(217) 698-1004	Phone	(913) 541-1998
Fax	(618) 344-1005	Fax	(217) 698-1005	Fax	(913) 541-1998
Email	jhriley@teklabinc.com	Email	kneclain@teklabinc.com	Email	dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2013	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2013	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2012	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2012	Springfield
Arkansas	ADEQ	88-0966		3/14/2012	Collinsville
Illinois	IDPH	17584		4/30/2012	Collinsville
Kentucky	UST	0073		5/26/2012	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2012	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company
Client Project: Leadwood MTS-25/86-0013
Lab ID: 12030703-001
Matrix: AQUEOUS

Work Order: 12030703
Report Date: 26-Mar-12

Client Sample ID: LW-001

Collection Date: 03/14/2012 7:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	150		301	mg/L	2	03/19/2012 20:30	R161318
STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.97		1	03/15/2012 15:28	R161174
STANDARD METHODS 18TH ED. 2340 C								
Hardness, as (CaCO ₃)	NELAP	5		580	mg/L	1	03/16/2012 11:40	R161211
STANDARD METHODS 18TH ED. 2540 D								
Total Suspended Solids	NELAP	6		7	mg/L	1	03/19/2012 9:11	R161253
STANDARD METHODS 18TH ED. 2540 F								
Solids, Settleable	NELAP	0.1		< 0.1	ml/L	1	03/15/2012 12:46	R161167
STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON								
Total Organic Carbon (TOC)	NELAP	1.0		2.4	mg/L	1	03/16/2012 5:08	R161208
EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)								
Cadmium	NELAP	2.00		4.10	µg/L	1	03/19/2012 13:26	76113
Zinc	NELAP	10.0	S	3410	µg/L	1	03/23/2012 12:08	76387
<i>Sample concentration was greater than 5 times the spike concentration.</i>								
EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)								
Cadmium	NELAP	2.00		12.1	µg/L	1	03/20/2012 16:06	76109
Zinc	NELAP	10.0		3560	µg/L	1	03/23/2012 9:44	76354
STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)								
Lead	NELAP	2.00		4.78	µg/L	1	03/19/2012 12:57	76115
STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA								
Lead	NELAP	2.00	X	15.5	µg/L	1	03/19/2012 16:59	76100



Laboratory Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Lab ID: 12030703-002

Client Sample ID: LW-002

Matrix: AQUEOUS

Collection Date: 03/14/2012 8:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	375		554	mg/L	5	03/17/2012 0:51	R161263
STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.88		1	03/15/2012 15:29	R161174
STANDARD METHODS 18TH ED. 2340 C								
Hardness, as (CaCO ₃)	NELAP	5		800	mg/L	1	03/16/2012 11:40	R161211
STANDARD METHODS 18TH ED. 2540 D								
Total Suspended Solids	NELAP	6		9	mg/L	1	03/19/2012 9:11	R161253
STANDARD METHODS 18TH ED. 2540 F								
Solids, Settleable	NELAP	0.1		< 0.1	ml/L	1	03/15/2012 12:46	R161167
STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON								
Total Organic Carbon (TOC)	NELAP	1.0		2.8	mg/L	1	03/16/2012 5:59	R161208
EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	03/19/2012 13:53	76113
Zinc	NELAP	10.0		4490	µg/L	1	03/19/2012 13:53	76113
EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)								
Cadmium	NELAP	2.00		3.70	µg/L	1	03/20/2012 14:56	76109
Zinc	NELAP	10.0		5020	µg/L	1	03/16/2012 17:41	76109
STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)								
Lead	NELAP	2.00	X	17.9	µg/L	1	03/19/2012 13:00	76115
STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA								
Lead	NELAP	4.00	X	29.5	µg/L	2	03/19/2012 17:22	76100



Laboratory Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company
Client Project: Leadwood MTS-25/86-0013
Lab ID: 12030703-003
Matrix: AQUEOUS

Work Order: 12030703
Report Date: 26-Mar-12

Client Sample ID: LW-Dup
Collection Date: 03/14/2012 7:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	150		371	mg/L	2	03/19/2012 20:41	R161318
STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.93		1	03/15/2012 15:31	R161174
STANDARD METHODS 18TH ED. 2340 C								
Hardness, as (CaCO ₃)	NELAP	5		640	mg/L	1	03/16/2012 11:40	R161211
STANDARD METHODS 18TH ED. 2540 D								
Total Suspended Solids	NELAP	6		< 6	mg/L	1	03/19/2012 9:11	R161253
STANDARD METHODS 18TH ED. 2540 F								
Solids, Settleable	NELAP	0.1		< 0.1	ml/L	1	03/15/2012 12:46	R161167
STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON								
Total Organic Carbon (TOC)	NELAP	1.0		2.5	mg/L	1	03/16/2012 6:05	R161208
EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)								
Cadmium	NELAP	2.00		3.00	µg/L	1	03/19/2012 13:58	76113
Zinc	NELAP	10.0		2800	µg/L	1	03/19/2012 13:58	76113
EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)								
Cadmium	NELAP	2.00		3.50	µg/L	1	03/20/2012 16:12	76109
Zinc	NELAP	10.0		3180	µg/L	1	03/16/2012 17:57	76109
STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)								
Lead	NELAP	2.00	X	5.16	µg/L	1	03/19/2012 13:11	76115
STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA								
Lead	NELAP	2.00	X	15.4	µg/L	1	03/19/2012 17:25	76100



Laboratory Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Lab ID: 12030703-004

Client Sample ID: LW-DS

Matrix: AQUEOUS

Collection Date: 03/14/2012 9:25

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	20		31	mg/L	2	03/21/2012 1:37	R161329
STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		7.97		1	03/15/2012 15:35	R161174
STANDARD METHODS 18TH ED. 2340 C								
Hardness, as (CaCO ₃)	NELAP	5		260	mg/L	1	03/16/2012 11:40	R161211
STANDARD METHODS 18TH ED. 2540 D								
Total Suspended Solids	NELAP	6		6	mg/L	1	03/19/2012 9:11	R161253
STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON								
Total Organic Carbon (TOC)	NELAP	1.0		2.0	mg/L	1	03/16/2012 6:11	R161208
EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	03/19/2012 14:04	76113
Zinc	NELAP	10.0		27.6	µg/L	1	03/19/2012 14:04	76113
EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	03/20/2012 16:18	76109
Zinc	NELAP	10.0		34.0	µg/L	1	03/16/2012 18:03	76109
STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)								
Lead	NELAP	2.00		< 2.00	µg/L	1	03/19/2012 13:14	76115
STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA								
Lead	NELAP	2.00		< 2.00	µg/L	1	03/19/2012 17:29	76100



Laboratory Results

<http://www.teklabinc.com/>

Client: Barr Engineering Company
 Client Project: Leadwood MTS-25/86-0013
 Lab ID: 12030703-005
 Matrix: AQUEOUS

Work Order: 12030703
 Report Date: 26-Mar-12

Client Sample ID: LW-US

Collection Date: 03/14/2012 9:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 375.2 REV 2.0 1993 (TOTAL)								
Sulfate	NELAP	20		22	mg/L	2	03/21/2012 1:43	R161329
STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED								
Lab pH	NELAP	1.00		8.01		1	03/15/2012 15:37	R161174
STANDARD METHODS 18TH ED. 2340 C								
Hardness, as (CaCO ₃)	NELAP	5		220	mg/L	1	03/16/2012 11:40	R161211
STANDARD METHODS 18TH ED. 2540 D								
Total Suspended Solids	NELAP	6	R	< 6	mg/L	1	03/19/2012 9:11	R161253
<i>% RPD was outside the QC limits due to low level results. When duplicate results for TSS are 20 mg/L or less and have a difference of no greater than the PQL, the results are considered within the precision of the test method and are reportable.</i>								
STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON								
Total Organic Carbon (TOC)	NELAP	1.0		1.7	mg/L	1	03/16/2012 6:18	R161208
EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	03/19/2012 14:09	76113
Zinc	NELAP	10.0		< 10.0	µg/L	1	03/19/2012 14:09	76113
EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)								
Cadmium	NELAP	2.00		< 2.00	µg/L	1	03/20/2012 16:24	76109
Zinc	NELAP	10.0		< 10.0	µg/L	1	03/16/2012 18:08	76109
STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)								
Lead	NELAP	2.00		< 2.00	µg/L	1	03/19/2012 13:17	76115
STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA								
Lead	NELAP	2.00		< 2.00	µg/L	1	03/19/2012 17:39	76100



Sample Summary

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
12030703-001	LW-001	Aqueous	7	03/14/2012 7:10
12030703-002	LW-002	Aqueous	5	03/14/2012 8:35
12030703-003	LW-Dup	Aqueous	5	03/14/2012 7:20
12030703-004	LW-DS	Aqueous	5	03/14/2012 9:25
12030703-005	LW-US	Aqueous	5	03/14/2012 9:05



Dates Report

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Sample ID	Client Sample ID Test Name	Collection Date	Received Date Prep Date/Time	Analysis Date/Time
12030703-001A	LW-001 Standard Methods 18th Ed. 2540 F	03/14/2012 7:10	3/15/2012 10:19:00 AM	03/15/2012 12:46
12030703-001B	LW-001 EPA 600 375.2 Rev 2.0 1993 (Total) Standard Method 18th Ed. 4500-H B, Laboratory Analyzed Standard Methods 18th Ed. 2340 C Standard Methods 18th Ed. 2540 D	03/14/2012 7:10	3/15/2012 10:19:00 AM	03/19/2012 20:30 03/15/2012 15:28 03/16/2012 11:40 03/19/2012 9:11
12030703-001C	LW-001 EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFAA	03/14/2012 7:10	3/15/2012 10:19:00 AM 03/15/2012 15:11 03/15/2012 15:11 03/15/2012 14:08	03/16/2012 17:35 03/20/2012 16:06 03/19/2012 16:59
12030703-001D	LW-001 EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFAA (Dissolved)	03/14/2012 7:10	3/15/2012 10:19:00 AM 03/15/2012 17:20 03/15/2012 18:00	03/19/2012 13:26 03/19/2012 12:57
12030703-001E	LW-001 Standard Methods 18th Ed. 5310 C, Organic Carbon	03/14/2012 7:10	3/15/2012 10:19:00 AM	03/16/2012 5:08
12030703-001F	LW-001 EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total)	03/14/2012 7:10	3/15/2012 10:19:00 AM 03/22/2012 16:45	03/23/2012 9:44
12030703-001G	LW-001 EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved)	03/14/2012 7:10	3/15/2012 10:19:00 AM 03/23/2012 10:53	03/23/2012 12:08
12030703-002A	LW-002 Standard Methods 18th Ed. 2540 F	03/14/2012 8:35	3/15/2012 10:19:00 AM	03/15/2012 12:46
12030703-002B	LW-002 EPA 600 375.2 Rev 2.0 1993 (Total) Standard Method 18th Ed. 4500-H B, Laboratory Analyzed Standard Methods 18th Ed. 2340 C Standard Methods 18th Ed. 2540 D	03/14/2012 8:35	3/15/2012 10:19:00 AM	03/17/2012 0:51 03/15/2012 15:29 03/16/2012 11:40 03/19/2012 9:11
12030703-002C	LW-002 EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFAA	03/14/2012 8:35	3/15/2012 10:19:00 AM 03/15/2012 15:11 03/15/2012 15:11 03/15/2012 14:08	03/16/2012 17:41 03/20/2012 14:56 03/19/2012 17:22
12030703-002D	LW-002 EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFAA (Dissolved)	03/14/2012 8:35	3/15/2012 10:19:00 AM 03/15/2012 17:20 03/15/2012 18:00	03/19/2012 13:53 03/19/2012 13:00
12030703-002E	LW-002 Standard Methods 18th Ed. 5310 C, Organic Carbon	03/14/2012 8:35	3/15/2012 10:19:00 AM	03/16/2012 5:59



Dates Report

<http://www.teklabinc.com/>

Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Sample ID	Client Sample ID Test Name	Collection Date	Received Date Prep Date/Time	Analysis Date/Time
12030703-003A	LW-Dup Standard Methods 18th Ed. 2540 F	03/14/2012 7:20	3/15/2012 10:19:00 AM	03/15/2012 12:46
12030703-003B	LW-Dup EPA 600 375.2 Rev 2.0 1993 (Total) Standard Method 18th Ed. 4500-H B, Laboratory Analyzed Standard Methods 18th Ed. 2340 C Standard Methods 18th Ed. 2540 D	03/14/2012 7:20	3/15/2012 10:19:00 AM	03/19/2012 20:41 03/15/2012 15:31 03/16/2012 11:40 03/19/2012 9:11
12030703-003C	LW-Dup EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFAA	03/14/2012 7:20	3/15/2012 10:19:00 AM 03/15/2012 15:11 03/15/2012 15:11 03/15/2012 14:08	03/16/2012 17:57 03/20/2012 16:12 03/19/2012 17:25
12030703-003D	LW-Dup EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFAA (Dissolved)	03/14/2012 7:20	3/15/2012 10:19:00 AM 03/15/2012 17:20 03/15/2012 18:00	03/19/2012 13:58 03/19/2012 13:11
12030703-003E	LW-Dup Standard Methods 18th Ed. 5310 C, Organic Carbon	03/14/2012 7:20	3/15/2012 10:19:00 AM	03/16/2012 6:05
12030703-004A	LW-DS Standard Method 18th Ed. 4500-H B, Laboratory Analyzed Standard Methods 18th Ed. 2540 D	03/14/2012 9:25	3/15/2012 10:19:00 AM	03/15/2012 15:35 03/19/2012 9:11
12030703-004B	LW-DS EPA 600 375.2 Rev 2.0 1993 (Total) Standard Methods 18th Ed. 2340 C	03/14/2012 9:25	3/15/2012 10:19:00 AM	03/21/2012 1:37 03/16/2012 11:40
12030703-004C	LW-DS EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFAA	03/14/2012 9:25	3/15/2012 10:19:00 AM 03/15/2012 15:11 03/15/2012 15:11 03/15/2012 14:08	03/16/2012 18:03 03/20/2012 16:18 03/19/2012 17:29
12030703-004D	LW-DS EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFAA (Dissolved)	03/14/2012 9:25	3/15/2012 10:19:00 AM 03/15/2012 17:20 03/15/2012 18:00	03/19/2012 14:04 03/19/2012 13:14
12030703-004E	LW-DS Standard Methods 18th Ed. 5310 C, Organic Carbon	03/14/2012 9:25	3/15/2012 10:19:00 AM	03/16/2012 6:11
12030703-005A	LW-US Standard Method 18th Ed. 4500-H B, Laboratory Analyzed Standard Methods 18th Ed. 2540 D	03/14/2012 9:05	3/15/2012 10:19:00 AM	03/15/2012 15:37 03/19/2012 9:11
12030703-005B	LW-US EPA 600 375.2 Rev 2.0 1993 (Total)	03/14/2012 9:05	3/15/2012 10:19:00 AM	03/21/2012 1:43



Dates Report

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Client Project: Leadwood MTS-25/86-0013

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Sample ID	Client Sample ID	Collection Date	Received Date	
	Test Name		Prep Date/Time	Analysis Date/Time
	Standard Methods 18th Ed. 2340 C			03/16/2012 11:40
12030703-005C	LW-US	03/14/2012 9:05	3/15/2012 10:19:00 AM	
	EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total)		03/15/2012 15:11	03/16/2012 18:08
	EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total)		03/15/2012 15:11	03/20/2012 16:24
	Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFAA		03/15/2012 14:08	03/19/2012 17:39
12030703-005D	LW-US	03/14/2012 9:05	3/15/2012 10:19:00 AM	
	EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved)		03/15/2012 17:20	03/19/2012 14:09
	Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFAA (Dissolved)		03/15/2012 18:00	03/19/2012 13:17
12030703-005E	LW-US	03/14/2012 9:05	3/15/2012 10:19:00 AM	
	Standard Methods 18th Ed. 5310 C, Organic Carbon			03/16/2012 6:18



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EPA 600 375.2 REV 2.0 1993 (TOTAL)

Batch R161263		SampType: MBLK		Units mg/L							
SampID: ICB/MBLK											
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed	
Sulfate		75		< 75						03/16/2012	

Batch R161263		SampType: LCS		Units mg/L						
SampID: LCS										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Sulfate	75		150	150	0	100.1	90	110	03/16/2012	

Batch R161318		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		75		< 75						03/19/2012

Batch R161318		SampType: LCS		Units mg/L						
SampID: LCS									Date Analyzed	
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate	75		140	150	0	93.2	90	110	03/19/2012	

Batch R161318		SampType: MS		Units mg/L						
SampID: 12030703-001B MS										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		150		511	200	301.0	105.1	85	115	03/19/2012

Batch R161318		SampType: MSD		Units mg/L				RPD Limit 10		Date Analyzed
SampID: 12030703-001B MSD										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Sulfate	150		505	200	301.0	101.8	511.1	1.27	03/19/2012	

Batch R161329		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Sulfate		10		< 10						03/21/2012

Batch R161329		SampType: LCS		Units mg/L						
SampID: ICB/LCS									Date Analyzed	
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Sulfate	10		21	20	0	104.4	90	110	03/21/2012	



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STANDARD METHOD 18TH ED. 4500-H B, LABORATORY ANALYZED

Batch R161174 SampType: LCS		Units								Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Lab pH		1.00		6.97	7.00	0	99.6	99.1	100.8	03/15/2012

Batch R161174 SampType: DUP		Units						RPD Limit 10		Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.98				7.970	0.13	03/15/2012

Batch R161174 SampType: DUP		Units						RPD Limit 10		Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.89				7.880	0.13	03/15/2012

Batch R161174 SampType: DUP		Units						RPD Limit 10		Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.94				7.930	0.13	03/15/2012

Batch R161174 SampType: DUP		Units						RPD Limit 10		Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		7.99				7.970	0.25	03/15/2012

Batch R161174 SampType: DUP		Units						RPD Limit 10		Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lab pH		1.00		8.01				8.010	0.00	03/15/2012

STANDARD METHODS 18TH ED. 2340 C

Batch R161211 SampType: MBLK		Units mg/L								Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Hardness, as (CaCO ₃)		5		< 5						03/16/2012

Batch R161211 SampType: LCS		Units mg/L								Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Hardness, as (CaCO ₃)		5		1020	1000	0	102.0	90	110	03/16/2012



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STANDARD METHODS 18TH ED. 2340 C

Batch R161211		SampType: MS		Units mg/L						Date Analyzed
SampID: 12030703-001BMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Hardness, as (CaCO3)	5		980	400	580.0	100.0	85	115	03/16/2012	

Batch R161211		SampType: MSD		Units mg/L				RPD Limit 10		
SampID: 12030703-001BMSD										Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Hardness, as (CaCO3)	5		960	400	580.0	95.0	980.0	2.06	03/16/2012	

STANDARD METHODS 18TH ED. 2540 D

Batch R161253		SampType: MBLK		Units mg/L						
SampID: MBLK										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Suspended Solids		6		7						03/19/2012
Total Suspended Solids		6.00		< 6.00						03/19/2012

Batch R161253		SampType: LCS		Units mg/L						
SampID: LCS										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Total Suspended Solids	6		106	100	0	106.0	85	115	03/19/2012	
Total Suspended Solids	6		104	100	0	104.0	85	115	03/19/2012	
Total Suspended Solids	6		113	100	0	113.0	85	115	03/19/2012	
Total Suspended Solids	6		98	100	0	98.0	85	115	03/19/2012	
Total Suspended Solids	6		106	100	0	106.0	85	115	03/19/2012	

Batch R161253		SampType: LCS		Units mg/L						
SampID: LCS-R161253										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Suspended Solids		6		103	100	0	103.0	85	115	03/19/2012

Batch R161253		SampType: DUP		Units mg/L				RPD Limit 15			Date Analyzed
SampID: 12030703-005A DUP											
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD			
Total Suspended Solids	6	R	7				5.000	33.33	03/19/2012		

STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON

Batch R161208		SampType: MBLK		Units mg/L						
SampID: ICB/MBLK										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		1.0		< 1.0						03/15/2012



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STANDARD METHODS 18TH ED. 5310 C, ORGANIC CARBON

Batch R161208		SampType: LCS		Units mg/L						
SampID: ICV/LCS										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Total Organic Carbon (TOC)		5.0		50.2	48.2	0	104.1	89.6	109.5	03/15/2012

Batch R161208		SampType: MS		Units mg/L						
SampID: 12030703-001EMS										Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	
Total Organic Carbon (TOC)		1.0		7.2	5.0	2.370	96.4	80	120	03/16/2012

Batch R161208		SampType: MSD		Units mg/L				RPD Limit 15		
SampID: 12030703-001EMSD										Date Analyzed
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Total Organic Carbon (TOC)		1.0		7.3	5.0	2.370	98.6	7.190	1.52	03/16/2012

EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)

Batch 76113		SampType: MBLK		Units µg/L						
SampID: MB-76113										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/19/2012	
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/16/2012	
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/20/2012	
Zinc	10.0		< 10.0	10.0	0	0	-100	100	03/16/2012	
Zinc	10.0		< 10.0	10.0	0	0	-100	100	03/19/2012	

Batch 76113		SampType: LCS		Units µg/L						
SampID: LCS-76113										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Cadmium	2.00		45.1	50.0	0	90.2	85	115	03/16/2012	
Cadmium	2.00		45.5	50.0	0	91.0	85	115	03/19/2012	
Cadmium	2.00		46.8	50.0	0	93.6	85	115	03/20/2012	
Zinc	10.0		464	500	0	92.8	85	115	03/16/2012	
Zinc	10.0		491	500	0	98.3	85	115	03/19/2012	

Batch 76113		SampType: MS		Units µg/L						
SampID: 12030703-001DMS										Date Analyzed
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Cadmium	2.00		49.0	50.0	4.1	89.8	75	125	03/19/2012	

Batch 76113		SampType: MSD		Units µg/L				RPD Limit 20			
SampID: 12030703-001DMSD										Date Analyzed	
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Cadmium		2.00		49.6	50.0	4.1	91.0	49	1.22	03/19/2012	



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EPA 600 4.1.1, 200.7R4.4, METALS BY ICP (DISSOLVED)

Batch 76387 SampType: MBLK Units µg/L
SampID: MB-76387

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/23/2012
Zinc	10.0		< 10.0	10.0	0	0	-100	100	03/23/2012

Batch 76387 SampType: LCS Units µg/L
SampID: LCS-76387

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		49.3	50.0	0	98.6	85	115	03/23/2012
Zinc	10.0		512	500	0	102.5	85	115	03/23/2012

Batch 76387 SampType: MS Units µg/L
SampID: 12030703-001GMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Zinc	10.0	S	3750	500	3413	67.4	75	125	03/23/2012

Batch 76387 SampType: MSD Units µg/L
SampID: 12030703-001GMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Zinc	10.0		3920	500	3413	100.8	3750	4.36	03/23/2012

EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)

Batch 76109 SampType: MBLK Units µg/L
SampID: MB-76109

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/20/2012
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/16/2012
Zinc	10.0		< 10.0	10.0	0	0	-100	100	03/16/2012

Batch 76109 SampType: LCS Units µg/L
SampID: LCS-76109

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		49.5	50.0	0	99.0	85	115	03/20/2012
Cadmium	2.00		50.5	50.0	0	101.0	85	115	03/16/2012
Zinc	10.0		540	500	0	108.0	85	115	03/16/2012

Batch 76109 SampType: MS Units µg/L
SampID: 12030703-002CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		50.7	50.0	3.7	94.0	75	125	03/20/2012



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EPA 600 4.1.4, 200.7R4.4, METALS BY ICP (TOTAL)

Batch 76109		SampType: MSD		Units µg/L				RPD Limit 20			
SampID: 12030703-002CMSD										Date	
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Analyzed	
Cadmium		2.00		51.2	50.0	3.7	95.0	50.7	0.98	03/20/2012	

Batch 76354		SampType: MBLK		Units µg/L					
SampID: MB-76354									
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/23/2012
Cadmium	2.00		< 2.00	2.00	0	0	-100	100	03/24/2012
Zinc	10.0		< 10.0	10.0	0	0	-100	100	03/24/2012
Zinc	10.0		< 10.0	10.0	0	0	-100	100	03/23/2012

Batch 76354		SampType: LCS		Units µg/L						
SampID: LCS-76354										Date
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Analyzed	
Cadmium	2.00		49.0	50.0	0	98.0	85	115	03/23/2012	
Cadmium	2.00		47.6	50.0	0	95.2	85	115	03/24/2012	
Zinc	10.0		538	500	0	107.6	85	115	03/23/2012	
Zinc	10.0		485	500	0	97.0	85	115	03/24/2012	

Batch 76354		SampType: MS		Units µg/L						
SampID: 12030703-001FMS										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Zinc		10.0		4090	500	3556	106.2	75	125	03/23/2012

Batch 76354		SampType: MSD		Units µg/L				RPD Limit 20			
SampID: 12030703-001FMSD										Date Analyzed	
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD		
Zinc		10.0		4070	500	3556	103.6	4087	0.32	03/23/2012	

STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)

Batch 76115		SampType: MBLK		Units µg/L						
SampID: MB-76115										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead		2.00		< 2.00	2.00	0	0	-100	100	03/16/2012

Batch 76115		SampType: LCS		Units µg/L						
SampID: LCS-76115										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Lead		2.00		15.7	15.0	0	104.6	85	115	03/16/2012



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STANDARD METHODS 18TH ED. 3030 B, 3113 B, METALS BY GFAA (DISSOLVED)

Batch 76115		SampType: MS		Units µg/L						Date Analyzed
SampID: 12030703-002DMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Lead	2.00		30.6	15.0	17.8642	84.8	70	130	03/19/2012	

Batch 76115		SampType: MSD		Units µg/L				RPD Limit 20		Date Analyzed
SampID: 12030703-002DMSD										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	
Lead		2.00		31.2	15.0	17.8642	89.0	30.5833	2.03	03/19/2012

STANDARD METHODS 18TH ED. 3030 E, 3113 B, METALS BY GFAA

Batch 76100		SampType: MBLK		Units µg/L						Date Analyzed
SampID: MB-76100										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Lead	2.00		< 2.00	2.00	0	0	-100	100	03/19/2012	

Batch 76100		SampType: LCS		Units µg/L						Date Analyzed
SampID: LCS-76100										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Lead	2.00		15.4	15.0	0	102.5	85	115	03/19/2012	

Batch 76100		SampType: MS		Units µg/L						Date Analyzed
SampID: 12030703-001CMS										
Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit		
Lead	4.00		28.0	15.0	15.4601	83.7	70	130	03/19/2012	

Batch 76100		SampType: MSD		Units µg/L				RPD Limit 20		
SampID: 12030703-001CMSD										
Analyses		RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Lead		4.00		29.7	15.0	15.4601	95.0	28.0091	5.87	03/19/2012



Receiving Check List

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Client: Barr Engineering Company

Work Order: 12030703

Client Project: Leadwood MTS-25/86-0013

Report Date: 26-Mar-12

Carrier: Ricky Schmidt

Received By: SRH

Completed by:

On:

15-Mar-12

Timothy W. Mathis

Reviewed by:

On:

15-Mar-12

Michael L. Austin

Pages to follow: Chain of custody

1

Extra pages included

0

Shipping container/cooler in good condition?
Type of thermal preservation?
Chain of custody present?
Chain of custody signed when relinquished and received?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Reported field parameters measured:
Container/Temp Blank temperature in compliance?

Yes ☒ No ☐
None ☐ Ice ☒
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐
Field ☐ Lab ☐
Yes ☒ No ☐

Not Present ☐ Temp °C 1.2
Blue Ice ☐ Dry Ice ☐

NA ☒

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - at least one vial per sample has zero headspace? Yes ☐ No ☐ No VOA vials ☒
Water - TOX containers have zero headspace? Yes ☐ No ☐ No TOX containers ☒
Water - pH acceptable upon receipt? Yes ☒ No ☐

Any No responses must be detailed below or on the COC.

Custody seal(s) intact on shipping container/cooler.



Teklab Chain of Custody

Pg. 1 of 1

Workorder 2030703

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax: (618)344-1005

Barr Engineering Co.

Are the samples chilled? ☒ Yes ☐ No with: ☒ Ice ☐ Blue Ice

Preserved in ☒ Lab ☐ Field

1001 Diamond Ridge, Suite 1100

Cooler Temp 1.2 Sampler Chris Schulte

TM
3.15.12

Jefferson City

MO

65109

Comments

Invoice to Mark Nations. Results to Allison Olds and Mark Nations, mnations@doerun.com
Matrix is surface water. *custody seal intact upon pick up*
Metals = Cd, Pb, Zn

Contact Allison Olds

eMail aolds@barr.com

Phone 573-638-5007

Requested Due Date Standard

Billing/PO Per contract with Doe Run

Lab Use	Sample ID	Sample Date/Time	Preservative	Matrix	pH	T.S.S.	Sulfate	Settleable Solids	T.O.C.	Total Metals	Dissolved Metals	Hardness				
<u>2030703</u> <u>001</u>	LW-001	<u>3/14/12</u> / <u>7:10</u>	Unpres	5	Aqueous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>002</u>	LW-002	<u>8:35</u>	Unpres	5	Aqueous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>003</u>	LW-Dup	<u>7:20</u>	Unpres	5	Aqueous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>004</u>	LW-DS	<u>9:25</u>	Unpres	5	Aqueous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>005</u>	LW-US	<u>9:05</u>	Unpres	5	Aqueous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Unpres		Aqueous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teklab, Inc
Courier Pick Up

Relinquished By *	Date/Time	Received By	Date/Time
<u>Chris Schulte / Barr</u>	<u>3/14/12</u> / <u>14:30</u>	<u>K. Schmidt</u>	<u>3/15/12</u> / <u>08:46</u>
<u>K. Schmidt</u>	<u>3/15/12</u> / <u>10:19</u>	<u>Stephanie Lawrence</u>	<u>3/15/12</u> / <u>10:19</u>

* The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.